Revision

R & D CATALOG FORM

DATE: 26 March 1965

1. PROJECT TITLE/CODE NAME: Data Block Reader

2. SHORT PROJECT DESCRIPTION: Data Block Reader for reading and decoding binary information recorded on photographic roll film.

25X1A

3. [redacted]

5. CLASS OF CONTRACTOR: Manufacturer

6. TYPE OF CONTRACT: Fixed Price

7. FUNDS: FY 19 $

25X1A

FY 1965

FY 1966

8. REQUISITION NO.: NA

9. BUDGET PROJECT NO.: NP-I-1

10. EFFECTIVE CONTRACT DATE (Begin - end): June 1965 - May 1966

11. SECURITY CLASS.: A.A. - Confidential
T. - Unclassified
W. - Unclassified

12. RESPONSIBLE DIRECTORATE/OFFICE/PROJECT OFFICER TELEPHONE EXTENSION

25X1

DDI/NPIC/[redacted]

13. REQUIREMENT/AUTHORITY

For reading and decoding binary or similarly coded information placed on the film prior to processing.

14. TYPE OF WORK TO BE DONE

Engineering Development

15. CATEGORIES OF EFFORT

MAJOR CATEGORY	SUB-CATEGORIES
Information Storage & Retrieval Equipment	Information Retrieval
	Electro-optical-mechanical

16. END ITEM OR SERVICES FROM THIS CONTRACT/IMPROVEMENT OVER CURRENT SYSTEM, EQUIPMENT, ETC.

One each prototype binary reader, decoder, and associated readout equipment. The current in-house capability is limited to one binary configuration only.

17. SUPPORTING OR RELATED CONTRACTS (Agency & Other)/COORDINATION

There are no supporting or related contracts; coordination has been accomplished with AMS. This project has been discussed with IPD and TID. It is of indirect significance to PAG AND PID.

18. DESCRIPTION OF INTELLIGENCE REQUIREMENT AND DETAILED TECHNICAL DESCRIPTION OF PROJECT (Continue on additional page if required)

The requirement for a Code Matrix Reader to provide rapid readout of auxiliary data recorded in digitally coded form in the margin of each photographic frame has been anticipated by the operational units. Accordingly, industry has been surveyed to ascertain the possibility of obtaining "shelf items" or modifying existing readers. Only one company was found to have such an instrument; however, it is of a fixed format design which is not subject to redesign for handling varying matrices.

(Contd)

19. APPROVED BY AND DATE

OFFICE	DEPUTY DIRECTOR	DDCI

R & D CATALOG FORM (Continued)

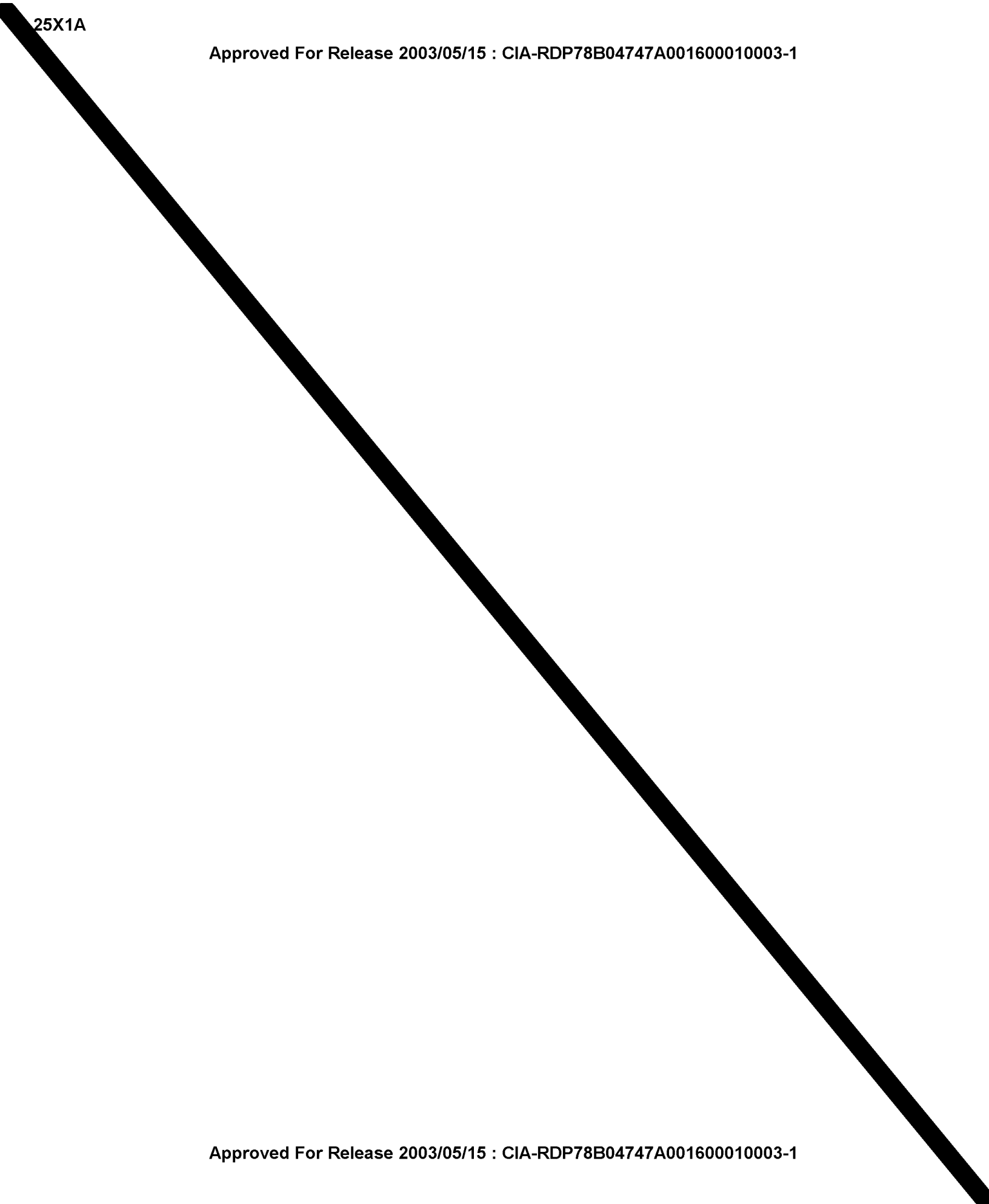
25X1A 18. Alternatively, manufacturers were solicted for proposals meeting our requirements. The proposal submitted by [redacted] meets the parameters set forth to develop a data block reader designed for maximum flexibility.

The proposed design incorporates a linear array of photo-diodes which combine the functions of spot location and photo sensitivity. This is a considerable simplification over the flying spot scanner implementation since high voltage accelerating anodes and highly stable sweep voltages are not required.

The device to be used is a single monolithic silicon crystal structure. The spacing of the diodes is extremely accurate, so that the output of each diode in the linear array is presented in the exact pattern of light and dark spots passing over the linear axis. Each diode is individually wired and the signal pre-amplified. By this means the diode array scans and readsout the data block as it passes under the sensory matrix.

The reader will automatically locate the data block, read the data and record it on magnetic tape or punched cards in the IBM format. The reader will be capable of reading four types of data blocks to be specified by the customer. Accommodation of dot size and density variations will be in accordance with MIL-Std 782-A "Tactical Reconnaissance Data Marking". All film sizes from 35mm through $9\frac{1}{2}$ inches in rolls holding up to 1000 feet will be accepted. The film transport will carry the film at a constant velocity of 60 feet per minute. The operator will determine which type of data block is to be read and connect the proper head by a selector switch. After loading the film the read head is aligned by two magnified hairlines and oriented in the same direction as the data block. After the read button is pressed, all the subsequent operations are automatic. The configurations which can be handled by this reader will meet the requirements for readout of two different SI packages as well as the standard DOD data block.

25X1A Appropriate security clearances and channels are already in existence at [redacted]



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